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10/690,228	10/17/2003	Masami Doukai	FUJI 20 685 (100794-00488)	2314
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EXAMINER				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/690,228

Applicant(s)

DOUKAI, MASAMI

Examiner

MON CHERI S. DAVENPORT

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1, 11, 13-14, and 21** rejected under 35 U.S.C. 102(e) as being anticipated by Shew et al. (US Patent Number 6,530,032).

Regarding **Claim 1 and 11** Shew et al. discloses a label switching router that carries out multiprotocol label switching MPLS (see col. 2 lines 49-50, internetworking protocol is MPLS) on an IP network, comprising said label switching router signaling failure to another label switching router (see col. 2, lines 25-27, upon failure, all LSP endpoints associated are notified) having an internet protocol IP address indicating two or more stages upstream in a label switched path LSP, when a signal from a reception link in the LSP is no longer detected (see col. 8 lines 21-45, the path failure causes an interrupt (signaling failure) that informs the MPLS process that manages the LSP associated with path, the path failure causes an interrupt, the router then adjust the next hop fields which uses the cut through path, L3 routing protocols link failure is propagated from the point of failure to routers farther away(reads on two or more stages upstream) by using the forwarding table, that is updated in figure 12b, section 222, see also figure 12b, col. 3, lines 46-47, layer 1 cut through path by 13).

Regarding **Claim 13** Shew et al. discloses everything as applied above (*see claim 11*). In addition the restoration and protection includes:

further comprising a step wherein a control LSP is set up, the control LSP being in a direction opposite to the working path that goes from PSL to PML(see figure 13, see col. 9, lines 30-38, LSP constructed in advance , the back up LSP is waiting to be used, the cut through paths(control LSP) endpoint are furthest in the BRS toward the destination LSR, as shown in the figure 13, after the fault occurs the LSP is routed in the direction opposite the working path R5-R2).

Regarding **Claim 14** Shew et al. discloses everything as applied above (*see claim 13*). In addition the restoration and protection includes:

further comprising a step wherein messages transmitted on said control LSP, when switching is to be carried out, comprise a message type, an IP address of a transmitting label switching router, and information about a plurality of the LSPs that are transmitting traffic on the working path that is to be switched (see figure 11b, section 220, 222, 224 packet, which carries the message with an IP address, along with the forwarding table of the LSPs).

Regarding **Claim 21** Shew et al discloses a router that transmits a label corresponding to an addressed network, receives another label, sets up a label path by updating a routing table that contains the received label based on the received label, and transmits a packet only with reference to a label that corresponds to a low level header of an IP packet header to the label path, comprising said router transmitting a failure notice to another router that is positioned two or more stages upstream on said label path, when packets are no longer received through said label path(see col. 8, lines 17-45, a router detects a path failure , and the router adjust the

affected next hop fields in the forwarding table for the destination IP prefixes which uses the cut through path with other valid routes, L3 routing protocols link failure is propagated from the point of failure to routers farther away(reads on two or more stages upstream) by using the forwarding table, that is updated in figure 12b, section 222, see also figure 12b, col. 3, lines 46-47, layer 1 cut through path by l3).

3. **Claims 2-10, 12, and 15-20** and rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US Patent Application Publication 2002/0060985).

Regarding **Claim 2 and 12** Lee et al. discloses a label switching router that carries out multiprotocol label switching MPLS on an IP network, comprising a path switching label switching router PSL that switches from a working path to a recovery path, the PSL selecting another label switching router having an internet protocol IP address indicating two or more stages downstream, the other label switching router serving as a path merging label switching router PML that receives signals from both the working path and the recovery path (see figure 4, see paragraph [0033], lines 1-7, MPLS network generates a failure, a LSR sensing the failure, loops-back a traffic stream in a reverse direction , figure 4 shows receiving signal from the both paths, see [0034-0036], LSR4 or LSR3(selected LSR), merging the loop-backed traffic stream load balancing is used to disperse the traffic, the loop-back traffic is transferred through link LSR3-LSR10(reads on two or more stages downstream, shows receiving signal from the working and recovery paths, normal traffic (working path), and loopbacked traffic flow after failure (recovery path))).

Regarding **Claim 3** Lee et al. discloses everything as applied above (*see claim 2*). In addition the label switching router includes:

wherein a control LSP is set up, the control LSP being in a direction opposite to the working path that goes from the PSL to the PML (see figure 4, see paragraph [0036], when a failure occurs in the link LSR 6 and LSR 8, the LSR6 loops-back the traffic stream in the reverse direction, the LSR4 receives the loop back packets).

Regarding **Claim 4** Lee et al. discloses everything as applied above (*see claim 3*). In addition the label switching router includes:

wherein messages transmitted on said control LSP, when switching is to be carried out, comprise a message type, an IP address of a transmitting label switching router, and information about a plurality of the LSPs that are transmitting traffic on the working path that is to be switched (see paragraph [0040-0041], a control message is sent from the LSR suffering the failure, transfers the FIS message in a downward direction , the FIS message is used to indicate that transfer route does not exist toward the traffic source)

Regarding **Claim 5 and 15** Lee et al. discloses everything as applied above (*see claim 2 and 14*). In addition the label switching router includes:

wherein said LSPs are grouped into a unit for switching from the working path to the recovery path, if said LSPs are passing traffic on the same working path from a specific PSL to a specific PML (see figure 5, see paragraph[0039], the figure disclose the grouping of the LSPs, from the working path to the recovery path).

Regarding **Claim 7 and 17** Lee et al. discloses everything as applied above (*see claim 5 and 15*). In addition the label switching router includes:

wherein the number of said LSPs and identifiers of said LSPs that are to be switched to the recovery path are provided from said PSL to said PML, and the recovery path is set up in a package by receiving a signal from said PML(see paragraph[0036], when a failure occurs the loop-back traffic stream in the reverse direction, the merging LSR receives the packets and selects the link based on priority).

Regarding **Claim 8 and 18** Lee et al. discloses everything as applied above (*see claim 5 and 15*). In addition the label switching router includes:

wherein the recovery path for a section from said PSL to said PML prepared for said unit assigns a label only for the section using label stacking for forwarding (see paragraph [0036], the LSR6 loops back the traffic , to the LSR4 which merges the link LSR4-LSR3, which used the new label of LSR3-LSR10).

Regarding **Claim 9 and 19** Lee et al. discloses everything as applied above (*see claim 5 and 15*). In addition the label switching router includes:

wherein a label processing unit stores information concerning said working path and said recovery path such that said PSL is capable of switching traffic to the recovery path, and switching back to the working path (see paragraph [0039-0040], when multi failures occur, traffic is capable of loop back, a control message is needed to make the fast rerouting, sensing all the links).

Regarding **Claim 10 and 20** Lee et al. discloses everything as applied above (*see claim 5 and 15*). In addition the label switching router includes:

wherein the label processing unit stores an entry of each of the working path and the recovery path, such that the label for the recovery path of a frame on the recovery path, received by the PML, is removed, and mapping to the working path can be performed (see paragraph[0040-0041], the control message is where the entry is stored of all the links to make the fast rerouting).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 6 and 16** rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Applicants admitted prior art.

Regarding **Claim 6 and 16** Lee et al. discloses everything as applied above (*see claim 5 and 15*). In addition the label switching router includes:

Lee et al discloses the grouping of LSPs see figure 5.

However Lee et al. fails to specifically point out wherein said unit of said LSPs is further divided into groups for every QoS and CoS for switching from the working path to the recovery path, if the QoS and the CoS are set up in the working path as claimed.

Applicant admitted prior art disclose LSPs is further divided into groups for every QoS and CoS for switching from the working path to the recovery path, if the QoS and the CoS are set up in the working path (see page 5 lines 3-10, QoS and CoS at each node in the MPLS network at the time of generating the label, a logical link path is established quality higher)

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to group the path based on QoS and or CoS service because this allows the subscriber of the network to obtain the same level of service regardless of failure of the network and maintain quality level service to the customer.

Response to Arguments

Claim Objections

Claim objection withdrawn in view of Applicant's amendment filed 1/15/2008.

6. Applicant's arguments filed 1/15/2008 have been fully considered but they are not persuasive.

In the remarks on pg. 7 of the amendment, the applicant contends that Shew et al. does not teach or suggest "signaling failure to another label switching router having an internet protocol IP address indicating two or more stages upstream in a label switched path LSP"

Examiner respectfully disagrees. The reference, Shew et al., teaches in col. 8, lines 21-45, the path failure causes an interrupt (signaling failure) that informs the MPLS process that manages the LSP associated with path, the link failure is propagated from the point of failure to routers far from the failure (many hops away) which reads on two or more stages upstream, routers are informed of label switching router signaling failure, as claimed)

In the remarks on pg. 8 of the amendment, the applicant contends that Lee et al. does not teach or suggest “selecting another label switching router having an internet protocol IP address indicating two or more stages downstream, the other label switching router serving as a path merging label switching router PML that receives signals from both the working path and the recovery path.”

Examiner respectfully disagrees Lee et al. teaches in [0034-0036], a merging LSR is selected LSR4 or LSR3 (selected merging LSR), merging the loop-backed traffic stream, load balancing is used to disperse the traffic; the loop-back traffic is transferred through link LSR3-LSR10 (which reads on two or more stages downstream). Figure 4 shows receiving signal from the working and recovery paths, normal traffic (working path), and loopbacked traffic flow after failure (recovery path).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MON CHERI S. DAVENPORT whose telephone number is (571)270-1803. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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April 3, 2008